

PATENT  
Attorney Docket No. 1718-163P

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: ZHOU, Xiao-Xiong et al.

SERIAL No.: 09/249,317 GROUP: 1623

FILED: February 12, 1999 EXAMINER: J. Wilson

FOR: PRODRUGS

DECLARATION SUBMITTED UNDER 37 C.F.R. § 1.132

Honorable Commissioner  
Of Patents and Trademarks  
Washington, D.C. 20231

Sir:

I, Dr. Xiao-Xiong Zhou Medivir AB, Lunastigen 7, S-141 44 Huddinge, Sweden,  
do hereby declare the following:

I have attached a copy of my curriculum vitae to this Declaration.

I am Director of Medicinal Chemistry at Medivir AB, a pharmaceutical research  
company employing around 90 research scientists, of which 53 are PhDs. I am familiar  
with the above referenced patent application, as well as the development, usages and  
properties of prodrug compounds.

I have read and understand the subject matter of the Office Action of January 31,

2001.

10015184-111601

SERIAL No.: 09/249,317

The following comments are offered in support of the patentability of the instant invention.

The empty bracket symbol, " $()_x$ ", where  $x$  is 0, 1, 2, etc., that is used throughout the Specification and Claims of the instant application is a widely used convention for methylene homologues; i.e., for homologues varying by the presence of one or more contiguous  $-CH_2-$  units. In the case where  $x$  is zero, there is no methylene group present and the empty bracket then represents a bond. One skilled in the art of medicinal chemistry, particularly prodrugs, would easily understand the meaning of the empty bracket symbol.

In the appendix to this Declaration I have attached a number of examples taken from the Derwent patent abstracting service and that show the empty bracket symbol in use. Note that the authors of such abstracts regard the symbol as so clear that no further definition of it is present, or required, in the key.

In my opinion, no medicinal chemist would be in doubt as to the significance of the empty bracket symbol in the context of a patent Specification describing and exemplifying prodrugs of active compounds, where the prodrug moiety comprises (in part) unbranched alkyl chains (i.e. methylene homologues) of various lengths.

However, if it were desirable to avoid using shorthand conventions for the intended homologues, then I believe that it is crystal clear that the symbol " $(CH_2)_x$ " should be put in the place of " $()_x$ ".

SERIAL No.: 09/249,317

The undersigned hereby declares that all statements made herein based upon knowledge are true, and that all statements made based upon information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATED: 27 April 2001

  
Dr. Xiao-Xiong Zhou

Enclosures: As stated above

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